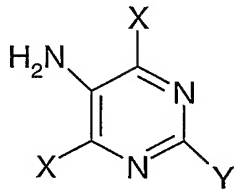
CLAIMS

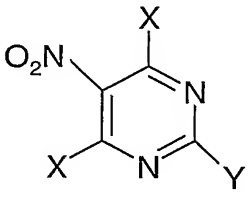
1. A process for the preparation of a compound of formula (I):



(I)

wherein X is halogen; Y is ZR^1; Z is oxygen or sulphur; and R^1 is C_{1-6} alkyl, C_{1-6} haloalkyl or C_{3-7} cycloalkyl; the process comprising either:

a. hydrogenating a compound of formula (II):

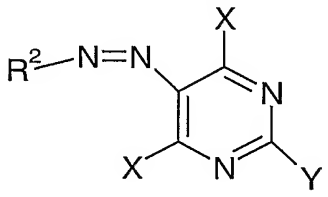


(II)

with a suitable transition metal catalyst in a C_{1-6} aliphatic alcohol, an ether, an ester or a hydrocarbon as solvent;

or,

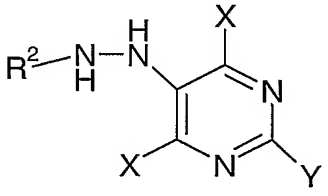
b. conducting a one-pot hydrogenation of a compound of formula (III):



(III)

wherein R^2 is phenyl optionally substituted by chloro, C_{1-6} alkyl, C_{1-6} alkoxy or $(C_{1-6}$ alkyl$)_2N$;

(i) firstly at about 20°C to form a compound of formula (IV):



(IV)

(ii) and then at about 40°C;

both steps (i) and (ii) being carried out in the presence of a suitable catalyst and in the presence of a suitable solvent.

2. A process as claimed in claim 1wherein X is chloro.

3. A process as claimed in claim 1 or 2 wherein Z is sulphur.

4. A process as claimed in claim 1, 2 or 3 wherein R^1 is C_{1-4} alkyl or C_{1-4} haloalkyl.

5. A process as claimed in claim 1, 2, 3 or 4wherein Y is ZR^1; Z is sulphur; and R^1 is n-propyl.

6. A process as claimed in any one of claims 1 to 5 wherein the transition metal catalyst for the hydrogenation of a compound of formula (II) is selected from platinum, palladium and a combination of platinum with a transition metal selected from vanadium, iron and manganese.

7. A process as claimed claim 6 wherein the transition metal catalyst is on a carbon support.

8. A process as claimed in any one of claims 1 to 7 wherein the solvent for the hydrogenation of a compound of formula (II) is a C_{1-6} aliphatic alcohol, an ether, an ester or a hydrocarbon solvent.

9. A process as claimed in any one of claims 1 to 8 wherein the hydrogenation of a compound of formula (II) is conducted at a temperature in the range 10 to 90°C. A process as claimed in claim 9 wherein the hydrogenation of a compound of formula (II) is conducted at a temperature in the range 20 to 40°C.

10. A process as claimed in any one of claims 1 to 10 wherein the hydrogenation of a compound of formula (II) is conducted at a pressure of 1 to 10 bar.

11. A process as claimed in claim 10 wherein the hydrogenation of a compound of formula (II) is conducted at a pressure of 2 to 4 bar.

12. A process as claimed in claim 1 for the preparation of a compound of formula (I) in which X is chloro, Y is ZR^1; Z is sulphur; and R^1 is n-propyl ; the process comprising hydrogenating a compound of formula (II) in solvent comprising an ether at a pressure of 2 to 4 bar, a temperature in the range 20 to 40°C and a Pt/V/C catalyst.

13. A process as claimed in any one of claims 1 to 5 wherein the catalyst for the one-pot hydrogenation is selected from platinum and a mixture of platinum and vanadium.

14. A process as claimed in claim 13 wherein the catalyst for the one-pot hydrogenation is selected from platinum on carbon 5-15%w/w; platinum 2-10%w/w and vanadium 0.2-3%w/w on carbon.

15. A process as claimed in claim 12, 13 or 14 wherein the solvent for the one-pot hydrogenation is selected from a C_{1-6} aliphatic alcohol, an ester, an ether, a hydrocarbon and a ketone.

16. A process as claimed in claim 13, 14 or 15 wherein the hydrogenation of a compound of formula (III) or (IV) is conducted at a pressure of 2 to 4 bar.

17. A process as claimed in claim 1 for the preparation of a compound of formula (I) in which X is chloro, Y is ZR^1; Z is sulphur; and R^1 is n-propyl ; the process comprising a one-pot hydrogenation of a compound of formula (III) wherein the hydrogenation is conducted in a solvent of ethyl acetate at a pressure of 2 to 4 bar and using a Pt/C catalyst.